CENTER FOR DRUG EVALUATION AND RESEARCH

APPLICATION NUMBER:

75-881

Bioequivalence Review(s)

BIOEQUIVALENCY COMMENTS

ANDA: #75-881

APPLICANT: Gensia Sicor Pharmaceuticals, Inc.

DRUG PRODUCT: Levocarnitine Injection, 200 mg/mL
Single-Dose Vials of 500 mg/2.5 mL,
1 g/5 mL, and
2.5 g/12.5 mL

The Division of Bioequivalence has completed its review and has no further questions at this time.

Please note that the bioequivalency comments provided in this communication are preliminary. These comments are subject to revision after review of the entire application, upon consideration of the chemistry, manufacturing and controls, microbiology, labeling, or other scientific or regulatory issues. Please be advised that these reviews may result in the need for additional bioequivalency information and/or studies, or may result in a conclusion that the proposed formulation is not approvable.

Sincerely yours,

for Dale P. Conner, Pharm. D.
Director, Division of Bioequivalence
Office of Generic Drugs
Center for Drug Evaluation and Research

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Levocarnitine
Injections
200 mg/mL
Single-Dose Vials of
500 mg/2.5 mL, 1 g/5 mL, and 2.5 g/12.5 mL
ANDA #75-881
Reviewer: Lin-Whei Chuang
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Gensia Sicor
Pharmaceuticals
Irvine, CA

Submission date:
May 19, 2000

Review of a Request for Waiver

Background:

1. This is an original ANDA requesting a waiver of *in vivo* bioequivalence study requirements for the test drug based on 21 CFR 320.22(b)(1).

2. The reference listed drug (RLD) is Carnitor Injection, 200 mg/mL, approved for Sigma-Tau Pharmaceuticals on 12/16/92 through NDA #20182. It is supplied as single dose ampoules of 1 g/5 mL and 500 mg/2.5 mL.

   Levocarnitine is also marketed by Sigma-Tau Pharmaceuticals as oral solutions and tablets.

3. The generic firm, Gensia Sicor Pharmaceuticals, had a petition (docket #99P-0553/CP1) approved by the Agency on 9/16/99 to allow filing an ANDA for levocarnitine injection 200 mg/mL supplied as 2.5 g/12.5 mL.

4. Both test and reference drugs are indicated for treatment of patients with an inborn error of metabolism that results in secondary carnitine deficiency. The recommended dose is 50 mg/kg administered intravenously.

Formulation Comparison:

Comparison of Formulations		
Ingredient	Test Product	RLD
	Amount per mL	
Levocarnitine	200 mg	200 mg
Hydrochloric Acid	pH adjustment	pH adjustment
Water for Injection	qs	qs

Comments:

1. Both test drug and RLD, Carnitor Injection, 200 mg/mL, are parenteral solutions intended for intravenous use.

2. The test drug contains the same active and inactive ingredients in the same concentration as RLD.

3. The waiver of *in vivo* bioequivalence study requirements for the test drug products can be granted based on 21 CFR 320.22(b)(1).

Recommendation:

The Division of Bioequivalence agrees that the information submitted by Gensia Sicor Pharmaceuticals demonstrates that its Levocarnitine 200 mg/mL injections in 500 mg/2.5 mL, 1 g/5 mL, and 2.5 g/12.5 mL vials fall under 21 CFR Section 320.22(b)(1) of the Bioavailability/Bioequivalence Regulations.

Lin Whei Chuang

Lin-Whei Chuang
Division of Bioequivalence
Review Branch I

Date: 7/25/00

RD INITIALLED YHUANG
FT INITIALLED YHUANG

Date: 7/25/2000

Concur

Date: 7/26/2000

for Dale Conner, Pharm.D.
Director, Division of Bioequivalence